statistically significantly by 0.22 mmol/L and 0.37 mmol/L for 3 months and 6 months later ($p = 0.021$);

4) FBG dropped statistically significantly by 0.3 mmol/L and 0.39 mmol/L respectively than that before interventions ($p = 0.027$);

CONCLUSIONS The user-friendly functions, such as messages reminders and online real-time communications with specialists, could to some extent facilitate patient-physician communications, equip patients with necessary knowledge about hypertension, and improve patients' compliance. Therefore, this programme may be deemed to be suitable to be applied in the management of hypertension control amongst non-medical university teachers.

GW26-e1828

Analysis on home blood pressure monitoring and blood pressure control among patients with hypertension in part of urban and rural areas in China

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OBJECTIVES To analyze the prevalence of home blood pressure monitor (HBPM) and its influencing factors, and the relationship between frequency of HBPM and blood pressure control.

METHODS This pilot cross-sectional investigation was conducted between October 2014 and November 2014. Two cities (Qingdao city, Wuxi city) and four townships (Rushan, Yiyuan, Lianshui, and Sheyang) located in Shandong and Jiangsu province was selected. 751 urban patients and 760 rural patients were recruited and asked to respond to an interviewer-led questionnaire.

RESULTS Total of 1511 hypertensive subjects with mean age 64.2 (SD 10.9, male 633, female 878) were recruited, 49.7% was from urban areas and 50.3% from rural areas. The prevalence rate of HBPM was 29.7%, Sex, urban/rural, duration of hypertension, advice on HBPM from health care provider and treaded with antihypertensive agents were all associated with differences in the prevalence of HBPM and it increased 1.7 times in patients who got the advice on HBPM from health care providers. The control rate of blood pressure was 39.0% (416/1068) for patients without HBPM, it was 52.5% (95/182), 34.2% (67/196), 36.9% (24/65) for patients with one to three times, four to ten times and over ten times of HBPM. After adjusted for sex, age, urban/rural, history of hypertension, duration of hypertension, BMI, history of Ischemic CVD, clinic visit times, treated with antihypertensive agents, the odds ratio was 1.542 (95%CI:1.098～2.186) for patients with HBPM between one to three times.

CONCLUSIONS The prevalence rate of HBPM was low among patients with hypertension and advice on HBPM from health care provider was good for patients' HBPM use. Patients achieved the ideal control standard trended to monitor BP one to three times per month.

GW26-e4418

Systematic review of nursing interventions of smoking cessation for patients with cardiovascular disease

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OBJECTIVES To systematic assess the effectiveness of nursing interventions of smoking cessation for patients with cardiovascular disease.

METHODS We searched the databases of cochrane library, the Cochrane Tobacco Addiction Group specialized Register, Pubmed, CINAHL, CNKI, CBM disc in January 2015. We only included randomized trials assessing the nursing interventions of smoking cessation with follow-up of at least six months. Two review authors independently extracted data using a piloted data extraction form. The values of relative risk (RR) were analyzed by RevMan 5.3.

RESULTS Of the 1375 initially identified studies, two review authors scanned the reading title and abstract for potentially relevant studies and selected 147 studies. Follwing retrieved the full articles and the circumspect reading, 37 studies met the inclusion criteria. Pooling the included studies, comparing the nursing intervention with the control, we found that the nursing intervention to increase the likelihood of smoking cessation (RR 1.32; 95%CI 1.20 to 1.39). Interventions in non-hospitalized adults also showed evidence of benefit (RR 1.27; 95% CI 0.99 to 1.62).

CONCLUSIONS The results indicate the obvious benefits of smoking cessation given by nurses, but the evidence for an effect is weaker when interventions are brief and are provided by nurses whose main role is not health promotion or smoking cessation. The challenge will be to incorporate smoking behavior monitoring and smoking cessation interventions as part of standard practice so that all patients with cardiovascular disease are given an opportunity to be asked about their tobacco use and to be given advice and/or counselling to quit along with reinforcement and follow-up.

LIPID RESEARCH

GW26-e1049

Lipoprotein (a) is a risk factor for coronary artery disease in Chinese Han ethnic population modified by some traditional risk factors: a cross-sectional study of 3,462 cases and 6,125 controls

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OBJECTIVES Lipoprotein (a) (LP (a)) is a well-established risk factor for coronary artery diseases (CAD) in Caucasians. However, data regarding the association of Lp (a) with CAD are lacking in Chinese Han ethnic population.

METHODS Cross-sectional study of 3,462 cases and 6,125 controls was performed for indentifying the association of Lp (a) with CAD and its possible interactions with risk factors on the risk of CAD in Chinese Han ethnic population. The CAD patients were subdivided into initial IHD, initial MI and prior CAD.

RESULTS The distribution of Lp (a) in Chinese Han population is different from that in Caucasian populations. On a continuous scale, the odds ratios for all the 3 CAD subdivisions per 10mg/dl higher Lp (a) levels were consistently and slightly higher in men than in women. On a categorical scale, the odds ratios for all the 3 CAD subdivisions were almost all consistently and significantly stepwise increased with the increasing quintiles in both genders except for female prior CAD. A significant interaction was found between Lp (a) and primary hypertension, body mass index and total cholesterol on initial IHD; and between Lp (a) and creatinine on prior CAD.

CONCLUSIONS Chinese Han population is different in the Lp (a) distribution, with far lower Lp (a) levels on average as compared with Caucasian population. The association of Lp (a) with risk of CAD is confirmative in Chinese Han population, which can be modified by primary hypertension, body mass index and total cholesterol in initial IHD, and by creatinine in prior CAD.

GW26-e1065

Preventive effects of breast milk leptin to the lipid metabolism disturbance in adulthood of the female neonatal rats born as small for gestational age

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OBJECTIVES Leptin, a hormone that regulates food intake and energy metabolism, is present in breast milk. The aim of this study was to determine whether breast milk leptin can prevent the abnormal lipid metabolism of adult rats that were born as small for gestational age (SGA).

METHODS The SGA rat model was developed by feeding restriction during pregnancy of the mother rat, otherwise, the pups of the rats that were normally fed during pregnancy were appropriate for gestational age (AGA) newborn rats. As the gender might influence the nutritional status, the objective of our study was female rat. The newborn rats were randomly divided into 7 groups. The AGA rats fed with breast milk or formula milk were in AB or AF group. The SGA rats

fed with breast milk, formula milk, formula milk with leptin, breast milk with leptin antagonist or breast milk with 0.4%$NaHCO_3$, the solvent of the leptin antagonist, were in SB, SF, SFL, SBLA or SBN group. Within the 20 days after birth, the pup rats were fed with breast milk, formula milk, breast milk with leptin antagonist or formula milk with leptin respectively. After that the normal rat diet was obtained. The weight (Wt), nose-to-anus length, abdominal girth (AG) and body mass index (BMI) were measured and the serum leptin, total cholesterol (TC) and triglyceride (TG) were detected by ELISA at the 18^{th}, 30^{th}, 90^{th} and 120^{th} day of life.

RESULTS Compared with the AB group, the rats in SB group had low Wt, AG and BMI and high leptin level in all detecting days and high TC level at the 30^{th} and 90^{th} day but low TC level at the 120^{th} day (all $P<0.05$). Compared with the AF group, the rats in SF group had low development data and high leptin and low TC and TG level at the 18^{th} day and high TC and TG level at 90^{th} and 120^{th} day (all $P<0.05$). Compared with SB group, the rats in SF group had high TG level at 90^{th} and 120^{th} day (all $P<0.05$) but the rats in SFL group had similar data (all $P>0.05$). Compared with SBN group, the rats in SB group had the similar data (all $P>0.05$) and the rats in SBLA group had low leptin and high TC and TG level at the 90^{th} and 120^{th} day (all $P<0.05$). Compared with SF group, the rats in SFL group had low BMI and low TC and TG and high leptin level at the 90^{th} and 120^{th} day (all $P<0.05$), but the rats in SBLA group had the similar data (all $P>0.05$).

CONCLUSIONS Breast feeding at early stage might prevent the abnormal lipid metabolisms of the female SGA rats during adulthood, which could be inhibited by the leptin antagonist. After adding leptin with formula milk, it could imitate the preventive effect of the breast milk. Our results indicated that the breast milk leptin is the important factor to prevent lipid metabolic disturbance in adulthood of SGA rats.

GW26-e4734

High prevalence of dyslipidemia and associated risk factors among rural Chinese adults

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OBJECTIVES Dyslipidemia is a key independent modifiable risk factor for Cardiovascular Disease, which is a leading contributor to morbidity and mortality in most developed and developing countries. This study was designed to investigate the current epidemiological features of dyslipidemia among adults in rural China.

METHODS Between January 2013 to August 2013, we conducted a cross-sectional study involving 11,956 subjects with age $\geq$ 35 years in a normal Chinese population. Permanent residents of the population were invited to participate in the study and the response rate was at 85.3%. Dyslipidemia was identified based on serum lipids levels following the standards proposed by the National Cholesterol Education Program Adult Treatment Panel III. Multivariate logistic regression analysis was used to evaluate the associated risk factors for dyslipidemia.

RESULTS Within the study population, 16.4% had high TC, 13.8% had low HDL-C, 7.6% had high LDL-C, and 17.3% had high TG concentrations. Prevalence of lipid abnormality (including borderline dyslipidemia and dyslipidemia) was 47.8%, 13.8%, 25.7% and 30.7% for TC, HDL-C, LDL-C and TG, respectively. Detailed analysis indicated that 36.9% of this population had at least one type of dyslipidemia and 64.4% had at least one type of abnormal lipid concentration. Thus, this study observed an alarmingly higher prevalence of lipid abnormality, in a relatively large population, compared to previous studies. Further, we determined that not all of the risk factors studied, including age, gender, hypertension, diabetes mellitus, obesity, smoking, drinking, education level, marital status, and family income, influenced dyslipidemia to the same extent.

CONCLUSIONS Our present study, in a population of 11,956 adults in Liaoning Providence, demonstrated a very high prevalence of dyslipidemia, which represented an alarming rise since the publication of our previous study and other similar studies around the world, which report lower levels. We also examined various risk factors for dyslipidemia, many of which are modifiable risk factors for Cardiovascular Disease (CVD), to provide a comprehensive view that will help in designing strategies to slow the rapid spread and promote effective measures to treat dyslipidemia. Our ultimate goal is to prevent the increasing prevalence of lipid abnormality and reduce the burden of CVD in rural China.

GW26-e5437

Association of elevated apoA-I glycation and reduced HDL-associated paraoxonase 1, 3 activity, and their interaction with angiographic severity of coronary artery disease in patients with type 2 diabetes mellitus

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OBJECTIVES To investigate whether apolipoprotein A (apoA)-I glycation and paraoxonase (PON) activities are associated with the severity of coronary artery disease (CAD) in patients with type 2 diabetes mellitus (T2DM).

METHODS Relative intensity of apoA-I glycation and activities of high-density lipoprotein (HDL)-associated PON1 and PON3 were determined in 205 consecutive T2DM patients with stable angina with (n=144) or without (n=61) significant CAD (luminal diameter stenosis$\geq$70%). The severity of CAD was expressed by number of diseased coronary arteries, extent index, and cumulative coronary stenosis score (CCSS).

RESULTS The relative intensity of apoA-I glycation was higher but the activities of HDL-associated PON1 and PON3 were lower in diabetic patients with significant CAD than in those without. The relative intensity of apoA-I glycation increased but the activities of HDL-associated PON1 and PON3 decreased stepwise from 1- to 3-vessel disease patients (P for trend$<$0.001). After adjusting for possible confounding variables, the relative intensity of apoA-I glycation correlated positively, while the activities of HDL-associated PON1 and PON3 negatively, with extent index and CCSS, respectively. At high level of apoA-I glycation (8.70$\sim$12.50%), low tertile of HDL-associated PON1 (7.03$\sim$38.97U/mL) and PON3 activities (7.11$\sim$22.30U/mL) was associated with a 1.97- and 2.49- fold increase of extent index and 1.73- and 2.68- fold increase of CCSS compared with high tertile of HDL-associated PON1 (57.85$\sim$154.82U/mL) and PON3 activities (39.63$\sim$124.10 U/mL), respectively (all $P < 0.01$).

CONCLUSIONS Elevated apoA-I glycation and decreased activities of HDL-associated PON1 and PON3, and their interaction are associated with the presence and severity of CAD in patients with T2DM.

GW26-e4029

The Change trendency of blood lipid in patients with acute myocardial infarction during the past decade in Beijing

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OBJECTIVES To investigate the status of blood lipid in patients with AMI over the last ten years in Beijing, and to analyze their baseline condition and variation tendency. These will contribute to take the targeted prevention strategies and specific measures for lipid control.

METHODS This was a retrospective study, which enrolled 339 inpatients with acute myocardial infarction (AMI) in two hospitals between 2001-2003 and 2011-2014. All lipid parameters were measured according to unified standard.

RESULTS There were 125 cases with AMI in 2011-2014, mean ages 62.46$\pm$12.36 years old, and 214 cases in 2011-2014, mean ages61.99$\pm$13.30 years old. The levels of blood LDL-C in patients with AMI in 2011-2014 were significantly higher than that of lipid in 2001-2003 (2.71$\pm$0.73 vs 3.07$\pm$0.82, p $<$0.01), the rate of hypertriglyceridemia and hypercholesterolemia was greater in patients in 2011-2014 (8.9% vs 17.0%, p $<$0.05;4.2% vs 10.2%, P=0.059), too. However, both the level of HDL-C and the rate of patients with low HDL-C content grew worse in 2011-21014(1.08$\pm$0.27 vs 1.02$\pm$0.22, p $<$0.05; 38.3% vs 54.9%, p $<$0.01). The level of LDL-C and TG in male cases has kept on rising for ten years (1.35$\pm$0.63 vs 1.65$\pm$1.17, P $<$0.05; 2.67$\pm$0.71 vs 3.08$\pm$0.80, p $<$0.01), that of TG decreased steeply (1.07$\pm$0.24 vs 1.01$\pm$0.22, P $<$0.05), but these remained unchanged for